AMENDMENTS TO THE CLAIMS

A complete listing of the claims, including amendments thereto, is provided as follows:

1. (Currently Amended) An apparatus for pumping flowable material, comprising:

a first barrel;

a first piston movable within the first barrel, thereby dividing the first barrel into a first head-side chamber and a first rod-side chamber;

a second barrel;

a second piston movable within the second barrel, thereby dividing the second barrel into a second head-side chamber and a second rod-side chamber;

a pump for delivering fluid to the first and second barrels; [[and]]

a valve fluidly coupled between the pump and the first and second chambers, the valve movable between a first position wherein an outlet of the pump alternately communicates with the first and second rod-side chambers, and a second position wherein the outlet of the pump alternately communicates with the first and second head-side chambers;

one or more sensors for measuring a parameter related to the fluid delivered by the pump to the first and second barrels; and

a controller coupled to the valve and the one or more sensors, the controller moving the valve between the first and second positions based upon the measured parameter.

2. (Original) The apparatus of claim 1, wherein the valve comprises passages therein such that the first head-side chamber communicates with the second head-side chamber in the first position, and the first rod-side chamber communicates with the second rod-side chamber in the second position.

3-5. Canceled.

6. (Currently Amended) The apparatus of claim 5, wherein the pump comprises an inlet for removing fluid from the first and second barrels, the pump and valve collectively configured for alternately connecting the inlet to the first and second rod-side chambers when the valve is in the first position, and alternately connecting the inlet to the first and second head-side chambers when the valve is in the second position.

7. Canceled.

8. (Currently Amended) The apparatus of claim 1 [[7]], wherein the one or more sensors comprise one or more sensors for measuring fluid pressure [[of at least one of the fluid delivered by the pump and within the cylinders]].

9. (Original) The apparatus of claim 8, wherein the controller is configured for moving the valve to the first position when the pressure rises above a first predetermined threshold, and to the second position when the pressure falls below a second predetermined threshold.

10. (Original) The apparatus of claim 9, wherein the second predetermined threshold substantially equals the first predetermined threshold.

11. (Currently Amended) An apparatus for pumping concrete or other flowable material, comprising:

a first barrel;

a first piston dividing the first barrel into a first head-side chamber and a first rod-side chamber, the first piston being movable within the first barrel for increasing and decreasing a volume of the first head-side and rod-side chambers;

a second barrel;

a second piston dividing the second barrel into a second head-side chamber and a second rod-side chamber, the second piston being movable within the second barrel for increasing and decreasing a volume of the second head-side and rod-side chambers;

a pump comprising an outlet for delivering fluid to the first and second barrels, and a inlet for removing fluid from the first and second barrels; [[and]]

a valve fluidly coupled between the pump and the first and second chambers, the valve movable between first and second positions, wherein, in the first position, the outlet of the pump alternately communicates with [[at least one of]] the first and second rod-side chambers, while [[and a transfer line connects]] the first head-side chamber communicates with the second head-side chamber, and, in the second position, the outlet of the pump alternately communicates with [[at least one of]] the first and second head-side chambers, while [[and a transfer line connects]] the first rod-side chamber communicates with the second rod-side chamber;

one or more sensors for measuring pressure of the fluid delivered by the pump to the first and second barrels; and

a controller coupled to the valve and the one or more sensors, the controller moving the valve between the first and second positions based upon the measured pressure.

12. (Original) The apparatus of claim 11, further comprising a first rod coupled to the first piston and extending through the first rod-side chamber, the first rod being movable as the first piston reciprocates within the first barrel, and a second rod coupled to the second piston and extending through the second rod-side chamber, the second rod being movable as the second piston reciprocates within the second barrel.

13. (Original) The apparatus of claim 12, further comprising pump cylinders coupled to the first and second rods, the pump cylinders being movable by the first and second rods for pumping concrete or other flowable material using the pump cylinders.

14. Canceled.

15. (Original) The apparatus of claim 14, wherein the controller is configured for moving the valve to the first position when the pressure rises above a first predetermined threshold, and to the second position when the pressure falls below a second predetermined threshold.

16. (Currently Amended) A method for pumping flowable material using a pumping apparatus comprising first and second drive cylinders, the method comprising:

delivering fluid into the cylinders to reciprocate pistons within the cylinders, the respective piston dividing the respective cylinder into a rod side and a head side;

monitoring pressure within the pumping apparatus; and

switching a direction of flow of the fluid between at least first and second configurations, wherein the first configuration comprises delivering fluid into [[a]] the rod sides of the cylinders when the pressure within at least one of the cylinders is below a predetermined pressure threshold, and the second configuration comprises delivering fluid into the [[a]] head sides of the cylinders when the pressure within at least one of the cylinders exceeds the predetermined pressure threshold.

17. (Original) The method of claim 16, wherein fluid is transferred between the head sides of the cylinders in the first configuration, and wherein fluid is transferred between the rod sides of the cylinders in the first configuration.

18. (Original) The method of claim 16, wherein the fluid is delivered alternately between the first and second cylinders such that the piston within the first cylinder is advanced when the piston within the second cylinder is retracted, and the piston within the first cylinder is retracted when the piston within the second cylinder is advanced.

19. (Original) The method of claim 16, wherein rods are connected to the pistons, and wherein the rods provide power to pump the flowable material.

20. (Original) The method of claim 16, wherein the flowable material comprises concrete.